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was an assiduous student of astronomy, especially during his later years. He had an observatory built for his 6-inch telescope, and employed his skill as an artist in making drawings of the Moon and planets. He constructed an ingenious model for illustrating and demonstrating the phenomena of the solar system, the longitude and right ascension of the Sun and Moon, right ascensions of stars, &c. The model was exhibited at the People's Palace in 1887.

Mr. Nimkey was a skilled musician, and was an organist in London for more than twenty-eight years. He died from a disorder brought on by over-work and study on December 17, 1891. He was elected a Fellow of this Society January 11, 1889.

Norman Robert Pogson was born on March 23, 1829, at Nottingham, where his father carried on an old-established business as a hosiery manufacturer. Being intended for a commercial career, young Pogson received only an ordinary education, but very early in life he evinced scientific tastes and a marked dislike of business. His desire for scientific information was encouraged by his mother, who procured him access for some time to the works of an optician and instrument maker at Nottingham. On the removal of his father to Manchester he succeeded in obtaining lessons in trigonometry and other branches of mathematics, and eventually Mr. Hind, sen., of Nottingham, suggested to his parents to send him to London, giving him a letter of introduction to his own son, Mr. J. R. Hind, at that time astronomer of Mr. Bishop's observatory in the Regent's Park. Here Mr. Pogson was enabled to study practical astronomy under excellent guidance, while he supported himself by giving lessons in mathematics. In 1847 he first introduced himself to the notice of the astronomical world by publishing parabolic elements of two comets, and in the following years he computed elements and ephemerides of various comets and minor planets. This led to his being engaged as an assistant at the Regent's Park Observatory, which post he only held for less than a year, as he was at the close of 1851 appointed assistant at the Radcliffe Observatory, Oxford. Here he was regularly employed in observations with the transit instrument from the beginning of 1852 to the end of 1858, but though he devoted himself with energy to the routine work required of him, he found time for other observations as well, and soon became distinguished in the two fields of work with which his name will always be associated—minor planets and variable stars. In 1852 he discovered the variability of *R. Cygni*, and in the course of years he found eighteen other variable stars, the last being *X. Capricorni*, found at Madras in 1865. In 1854 he picked up the planet *Amphitrite*, which had, however, been found by Mr. Marth the night before, but two years later he was more fortunate, when he discovered *Isis* (42), and, encouraged by this and by the Lalande Medal which it procured him, he found in 1857 two other planets, (43) and (46). In the mean-

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time he had in 1854 been selected by the late Astronomer Royal as one of the observers in the pendulum experiments at Harton Colliery, near South Shields, for determining the mean density of the earth; but he continued to devote most of the time which he could spare from his official work to studies on variable stars and on the magnitudes of the minor planets. The number which he adopted as the ratio of light between each magnitude, 2·512, of which the logarithm is 0·4, became by degrees universally adopted.

By his discoveries and numerous contributions to the *Monthly Notices* and the *Astronomische Nachrichten*, Mr. Pogson had acquired considerable renown among astronomers, and when Dr. Lee, towards the end of 1858, wished to revive the activity of the Hartwell Observatory, the charge of which had become too onerous for himself and Admiral Smyth, owing to their advanced age, he felt that he could not do better than entrust his instruments to Mr. Pogson. A regular agreement was drawn up as to the future work of the observatory (which curious document may be read in the *Speculum Hartwellianum*), and on January 1, 1859, Mr. Pogson entered on his new duties. At Hartwell he continued his favourite studies, especially devoting his time to a great piece of work which he had already commenced at Oxford in 1853—viz., an atlas of variable stars. This gave for each telescopic variable a map of its vicinity, 80′ square (on a scale of three inches to a degree), containing all stars down to the twelfth magnitude, and giving the accurate magnitudes of a certain number of comparison stars. In February, 1860, he announced that nineteen of these maps were finished, and if he had remained at Hartwell or at some similar observatory, this valuable piece of work would doubtless long ago have been published. In October, 1860, he was, however, appointed Government Astronomer at Madras, in succession to Captain Jacob, and left England soon after.

When Mr. Pogson arrived at Madras in the beginning of 1861, the observatory had recently been provided with a transit-circle by Troughton and Simms, which had arrived just before Captain Jacob's departure. It was mounted and ready for work in the spring of 1862, when systematic observations were at once commenced by three native assistants. The objects selected for observation were the brighter stars down to the fifth magnitude, the Moon and Moon-culminating stars, *Mars*, and the brighter of the minor planets, but particularly all known variable stars, and as many stars as possible south of 120° N.P.D., down to the ninth magnitude. From 1862 to 1887 more than 50,000 observations of fixed stars were made, but it was not till the last-mentioned year that Mr. Pogson was able to overcome the difficulties which up to then had prevented him from publishing any of the results of the observations. He then commenced the publication of annual catalogues of individual results and mean positions for each star, but he only lived to give three volumes to the public, embracing the years 1862 to 1870. In addition to the unpublished parts of this work there are still awaiting publication: a catalogue of 2,200 stars for 1855, from observations made from 1853 to 1858 under Captain Jacob and Major Worster, as well as a number of miscellaneous observations made before 1860; also all the observations of minor planets, comets, occultations, and light-comparisons of variable stars. The only astronomical publication issued from the Madras Observatory under the direction of Mr. Pogson, in addition to the three volumes already mentioned, is the account of the telegraphic determination of the difference of longitude between Madras and eight other stations.

The disappointment which Mr. Pogson must have felt at having to wait for so many years before being enabled to publish his meridian work was not the hardest one which he had to bear. When he first commenced work at Madras he expected that a European and scientifically-trained first assistant would very soon be appointed, and he had planned a continuation of Argelander's *Durchmusterung* in the southern hemisphere, and the subsequent observation on the meridian of the stars thus mapped. All these hopes he was destined to see dashed to the ground within a few years of his arrival in India. But this did not prevent him from continuing his former work, and he went on searching for minor planets, of which he at Madras found five and re-discovered the lost *Freia*. The name which Pogson had acquired as a skilful observer caused Klinkerfues in 1872 to address his well-known suggestion to look for the lost comet of *Biela*, near *θ Centauri*, to the astronomer at Madras, who readily acted on the suggestion and found a small comet not far from the spot indicated. But his favourites, the variable stars, were not forgotten; he added seven new ones to those already known, and continued to work on his Atlas of variable stars during the years of his residence in India. The difficulties connected with the observations required for this work, which could only be carried on during the absence of the Moon, have unfortunately prevented this Atlas from being completed; and here again we cannot help regretting that Mr. Pogson was drawn away from the class of work to which he felt specially inclined, and left to struggle without proper assistance against an overwhelming amount of routine work, including magnetic and meteorological observations, with plenty of arrears to be worked up.

Mr. Pogson was created a Companion of the Indian Empire on January 1, 1878.

During the thirty years which Mr. Pogson spent in India he never took any holidays. Even when very far from well, about six months before he died, he was indefatigably active in dismounting and cleaning three of the principal instruments, and in May last, though seriously ill, he had a look at *Mercury* on the Sun's disc with an old $3\frac{1}{2}$-inch refractor from Hartwell. He

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died on June 23, 1891, leaving a large family by his first marriage, and a widow and two young children. He was elected a Fellow of this Society on May 11, 1860. J. L. E. D.

Henry Pratt was born in Brighton on March 29, 1838, and was the eldest son of Mr. Henry Pratt, a naturalist and taxidermist of the same town. The son was almost entirely self-educated, but owed much to two years' instruction under Mr. Strugnell, of Christ Church School, Brighton, who helped to inculcate the love of study and to form the orderly habits of thought which Mr. Pratt showed in after years. By profession he was a watchmaker, and was esteemed for his ingenuity in works of mechanism and the skill which he could command in delicate workmanship. Astronomy, however, was his favourite pursuit, though all his studies in this direction had to be conducted at the close of a hard day's work in his business.

The instrument which he employed was a With-Browning reflector, with an excellent mirror of 8·15 inches aperture. He had a keen sight, and was a skilled draughtsman. These advantages, combined with indefatigable industry, enabled him to do much useful work, and he soon became known as an astronomer far beyond the limits of his native town.

During the partial solar eclipse of 1873 May 27, he was fortunate in obtaining observations of a portion of the Moon's limb beyond the disc of the Sun. In his first contribution to the *Monthly Notices* (vol. xxxiii. p. 577) he gave an account of his observation of this interesting phenomenon; the Moon's limb was seen to a distance of about 5 minutes of arc beyond the Sun's disc, of course projected upon the solar corona. The instruments were repeatedly changed, and it appears certain that the phenomena observed were not of instrumental origin.

Mr. Pratt was an assiduous observer of the lunar surface, and especially of the delicate markings and minute craterlets upon the floor of *Plato*, which he carefully studied. In 1877 he communicated to the Society some short but suggestive notes on *Mars*, accompanied by drawings which are preserved in the library. In 1880 he published a careful determination of the rotation period of *Jupiter*, which involved the observation of 321 rotations of the planet, and he showed reason for considering that the generally accepted rotation period was somewhat too short. In vol. xliv. of the *Monthly Notices* he gave the results of a series of observations of *Saturn*, accompanied by a fine drawing of the planet, and he appears to have obtained satisfactory observations of the innermost satellites, and of the fine division of the rings. In the same volume he published his observations of the *Merope* nebula in the *Pleiades*, which he was well able to see with his reflector, using a low-power Kellner eyepiece; with a slotted diaphragm to conceal the bright stars he even succeeded in seeing the faint patch of nebulosity